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(TERMITOMYCES(W)CLYPEATUS)

=> d bib ab 1-35

L1 ANSWER 1 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 2001:473019 BIOSIS
DN PREV200100473019
TI Hetero-aggregation with sucrase affects the activity, stability and conformation of extra- and intra-cellular cellobiase in the filamentous fungus T. clypeatus.
AU Mukherjee, Sumana; Basak, Soumen; Khowala, Suman (1)
CS (1) Department of Applied Biochemistry, Indian Institute of Chemical Biology, 4 Raja S C Mullick Road, Calcutta, 700032: sumankhowala@iicb.res.in India
SO Enzyme and Microbial Technology, (September 5, 2001) Vol. 29, No. 4 213-224. print.
ISSN: 0141-0229.
DT Article
LA English
SL English
AB Cellobiase (C) from T. clypeatus was found to be aggregated with sucrase (S) in extra- and intra-cellular fractions, when co-aggregates of the enzyme with sucrase with different activity ratios (C/S) were obtained during purification. The co-aggregates were compared for their activity, stability, and kinetic parameters with a purified sucrase-free cellobiase preparation. The specific activity and stability of both the extra- and intra-cellular enzyme decreased significantly in the absence of sucrase. The catalytic activity (Vmax/Km) of sucrase-free cellobiase were decreased by 4236 and 652 fold compared to the crude enzyme in culture filtrate and mycelial extracts respectively. The stability of the enzyme also decreased versus pH, temperature and in the presence of chaotropic agents such as SDS, Gdn.HCl and urea after disaggregation from sucrase. Optimum temperatures of the free intra- and extra-cellular cellobiase were

to 47degreeC from 45degreeC after the removal of sucrase from the co-aggregates, whereas optimum pH of the free enzyme and co-aggrega remained the same. Intra-cellular cellobiase had very high affinity sucrase and it was difficult to separate them. Cellobiase preparati from extra- and intra-cellular fractions were analysed by circular dichroism and light scattering spectroscopy and it was concluded th co-aggregation with sucrase was responsible for a change in conform of cellobiase in the aggregates. The conformation of intra-cellular preparations were also different from those in the extra-cellular fractions. Instant regain of cellobiase activity in intra- and extra-cellular preparations were obtained on the addition in vitro sucrase from the respective fractions to the incubation mixture. Th experiments suggested that hetero-aggregation with sucrase regulate activity and stability of cellobiase in the fungus.

L1 ANSWER 2 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 2000:164088 BIOSIS
DN PREV200000164088
TI Some records of Termitomyces from Old World Rainforests.
AU Turnbull, E. (1); Watling, R. (1)
CS (1) Royal Botanic Garden, Edinburgh, EH3 5LR UK
SO Kew Bulletin., (1999) Vol. 54, No. 3, pp. 731-738.
ISSN: 0075-5974.
DT Article
LA English
SL English
AB Eleven species of Termitomyces are enumerated from the rainforests Old World, seven from Malaysia and seven from the Republic of Camer with three species common to both. Lepiota discipes Henn. is synony with Termitomyces letestui and a second record is made of Tricholom termitomycoides Corner, which resembles Termitomyces heimii Nataraj

L1 ANSWER 3 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1998:98960 BIOSIS
DN PREV199800098960
TI **Termitomyces clypeatus** controls secretion of extracellular amyloglucosidase by regulating exocytosis of vacuolar enzyme.
AU Sengupta, Trishna; Hazra, P. P.; Mukhopadhyay, A.; Sengupta, S. (1)
CS (1) Dep. Applied Biochem., Indian Inst. Chem. Biol., 4 Raja S. C. M Rd., Calcutta 70032 India
SO FEMS Microbiology Letters, (Jan. 1, 1998) Vol. 158, No. 1, pp. 101-
ISSN: 0378-1097.
DT Article
LA English
AB An extracellular amyloglucosidase (56 kDa) of **Termitomyces clypeatu** which was accumulated intracellularly in absence of Krebs cycle aci dextrin medium, remained mostly inside the plasma membrane. The enz localised in mycelial vacuoles as a sucrase-amyloglucosidase aggreg The intracellular pool contained both the free sucrase and the aggr while vacuoles contained only aggregate without any free enzyme. Th aggregate, partially purified to PAGE homogeneity, contained amyloglucosidase and sucrase in the ratio of 1:1. A cellular regula influenced by the presence of Krebs cycle acids, was indicated to b

present at the level of exocytosis of vacuolar enzyme.

L1 ANSWER 4 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1998:53127 BIOSIS
DN PREV199800053127
TI Purification and characterization of an extracellular beta-xylosida **Termitomyces clypeatus**.
AU Bhattacharyya, Saswati; Khowala, Suman; Kumar, A.; Sengupta, S. (1)
CS (1) Dep. Applied Biochem., Indian Inst. Chem. Biol., 4 Raja S. C. M Road, Calcutta 700 032 India
SO Biotechnology Progress, (Nov.-Dec., 1997) Vol. 13, No. 6, pp. 822-8 ISSN: 8756-7938.
DT Article
LA English
AB **Termitomyces clypeatus** liberated beta-xylosidase (EC 3.2.1.37) optimally in xylan medium but poorly in cellulose medium. The enzym activity reached 5-6% of that of xylanase liberated in xylan medium culture filtrate enzyme, purified 5-fold by ammonium sulfate precipitation, BioGel P-200, and DEAE-Sephadex anion exchange chromatographies at pH 5.0, was homogeneous (190 kDa) in polyacryla gel electrophoresis (PAGE) and in high-performance gel permeation l chromatography (HPGPLC) but contained high amounts of cellobiase ar sucrase and gave multiple protein bands in SDS-PAGE (SDS = sodium c sulfate). The aggregate was subsequently beta-xylosidase fractions decreasing sucrase contents. The sucrase free beta-xylosidase resol DEAE-anion exchange chromatography at pH 6.0 into a number of fract subsequently purified to 55.6-fold by hydrophobic interaction chromatography on a phenyl-sepharose column. The enzyme was a homoc 94 kDa protein, both in SDS-PAGE and HPGPLC. The physicochemical properties of the enzyme were similar to those of other fungal beta-xylosidases, and the enzyme had no unrelated glycosidase activ The purified (94 kDa) and aggregated forms (190 kDa) of beta-xylosi had the same pH optima (5.0), temperature optima (60degreeC), subst specificities, and sensitivities toward end product inhibition by x or to the actions of SDS, urea, and guanidine hydrochloride. But aggregated enzyme was reasonably stable in the pH and temperature r where purified enzyme was completely inactive. The protein-protein aggregation appeared to confer additional stability to the beta-xyl toward extracellular denaturing conditions.

L1 ANSWER 5 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1997:461021 BIOSIS
DN PREV199799760224
TI Regulation of protein secretion by mycelial culture of the mushroom **Termitomyces clypeatus**.
AU Hazra, P. P.; Sengupta, Trishna; Mukhopadhyay, A.; Ghosh, A. K.; Mukherjee, M.; Sengupta, S. (1)
CS (1) Dep. Applied Biochemistry, Indian Inst. Chemical Biol., 4 Raja Mullick Rd., Calcutta 700032 India
SO FEMS Microbiology Letters, (1997) Vol. 154, No. 2, pp. 239-243. ISSN: 0378-1097.
DT Article
LA English

AB **Termitomyces clypeatus** secreted a 24-kDa xylanase constitutively i
xylan medium, but required a gluconeogenic amino acid or Krebs cycl
for the secretion of a 56-kDa amyloglucosidase in dextrin medium.
Aspartate, glutamate, succinate and fumarate all increased secretic
amyloglucosidase from 50% to gt 90% and enzyme production by 10-fol
little effect on xylanase production. Glutamate or succinate stimul
vitro release of intracellular amyloglucosidase from washed myceli
presence of cycloheximide. Amyloglucosidase accumulated in the abse
glutamate was a high-molecular-mass protein that did not migrate ir
Cellular regulation by the fungus of the secretion of amyloglucosic
indicated.

L1 ANSWER 6 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1997:318733 BIOSIS
DN PREV199799609221
TI Characterisation of a xylanolytic amyloglucosidase of **Termitomyces clypeatus**.
AU Ghosh, Anil K.; Naskar, Amal K.; Sengupta, Subhobrata (1)
CS (1) Applied Biochemistry Dep., Indian Inst. Chemical Biol., 4, Raja Mullick Road, Calcutta-700 032 India
SO Biochimica et Biophysica Acta, (1997) Vol. 1339, No. 2, pp. 289-296 ISSN: 0006-3002.
DT Article
LA English
AB A xylanolytic amyloglucosidase of **Termitomyces clypeatus** was characterised with respect to other amyloglucosidases. The enzyme contained high alpha-helix destabilising amino acids but no sulphur acid. It contained high threonine and serine, analogous to other ra starch hydrolysing enzymes. Both xylanase and amyloglucosidase acti were gradually lost with the progress of tryptophan oxidation by NB total inactivation occurred after oxidation of 4-5 tryptophan resic the presence of substrates (either starch or xylan), complete inact of either activities was not noticed even after oxidation of 7.7 mc tryptophan residues. Inactivation by HNBB was not possible in the a of any denaturant. Only 4.9 mol of tryptophan could be modified in presence of 5 M urea which resulted in only 42% inhibition of activ Thus modified enzyme had higher V-m/K-m and lower pH optima in comp to those of native enzyme. It was suggested that tryptophan was pre the substrate binding site and not at the active site. No such char activity was noticed after modification of tyrosine, lysine or argi residues. HPGPLC analysis of both dilute and concentrated enzyme sc indicated that the enzyme existed as an equilibrium mixture of protomer-oligomer. Perhaps for this reason molar mass of NAI modifi enzyme appeared to be almost half of that modified by NAI in preser substrate. Arrhenius plot of the enzyme also indicated reversible oligomerisation as a function of temperature.

L1 ANSWER 7 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1997:202849 BIOSIS
DN PREV199799502052
TI Acetyl esterase production by **Termitomyces clypeatus**.
AU Mukhopadhyay, A.; Harza, P. P.; Sengupta, T.; Ghosh, A. K.; Sengupt (1)

CS (1) Indian Inst. Chem. Biol., 4 Raja S.C. Mullick Road, Calcutta 7C India
SO Biotechnology Letters, (1997) Vol. 19, No. 2, pp. 159-161. ISSN: 0141-5492.
DT Article
LA English
AB Production of acetyl esterase by **Termitomyces clypeatus** was stimul by xylan, cellulose, arabinose and arabinose-containing polysacchar the growth medium. The culture filtrate was equally active with p-nitrophenyl acetate and acetyl xylan. Acetyl xylan was completely deacetylated by the enzyme. Activity was optimum at pH 6.5 and at 5 degree C. The Km values for p-nitrophenyl acetate and acetyl xylan 0.83 mM and 0.38% (w/v) with Vm of 48 and 55 mmole acetate produced cntdot mg protein, respectively.

L1 ANSWER 8 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1996:274517 BIOSIS
DN PREV199698830646
TI Regulation of endo-1,4-beta-glucanase secretion from **Termitomyces clypeatus** by carbon catabolic product(s.
AU Mukherjee, M.; Khowala, S.; Ghosh, A. K.; Sengupta, S. (1)
CS (1) Dep. Applied Biochem., Indian Inst. Chemical Biol., Calcutta-7C India
SO Folia Microbiologica, (1995) Vol. 40, No. 5, pp. 475-480. ISSN: 0015-5632.
DT Article
LA English
AB Secretion of CMCase by **Termitomyces clypeatus** was only observed in presence of a gluconeogenic amino acid, a citrate-cycle acid, malea subinhibitory concentrations of glucosamine, or fluoride in the mec The enzyme was not secreted in the presence of caffeine or IBMX or theophylline, and these phosphodiesterase inhibitors lowered the se of CMCase by glutamate. The presence of both glucosamine and glutam a cellulose medium were, however, antagonistic to CMCase secretion. growth medium, xylose and glucose were equivalent carbon source for fungus while succinate was a poor source and strongly repressed grc higher concentrations. Growth of T. clypeatus was highly favored ir containing xylose/glucose with succinate/glutamate. During growth c clypeatus in a glucose medium, the intracellular glucose level was stabilized by the presence of succinate, glutamate or glucosamine i medium. All these observation suggested that a negative cellular regulation, mediated by carbon catabolic product(s), existed in T. clypeatus which regulated the secretion of CMCase. A transient but significant increase of intracellular cAMP and cGMP levels was obse the onset of mycelial growth in glucose and glucose/maleate media, respectively.

L1 ANSWER 9 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1995:539832 BIOSIS
DN PREV199598554132
TI Development of high-molar-mass cellobiase complex by spontaneous protein-protein interaction in the culture filtrate of **Termitomyces clypeatus**.

AU Roy, S. B.; Ghosh, A. K.; Sengupta, S.; Sengupta, S. (1)
CS (1) Dep. Applied Biochem., Indian Inst. Chemical Biol., Calcutta-7C India
SO Folia Microbiologica, (1994) Vol. 39, No. 6, pp. 463-470. ISSN: 0015-5632.
DT Article
LA English
AB The 450 kDa cellobiase from **Termitomyces clypeatus** which migrates ; single band on IEF, PAGE and SDS-PAGE, was found to possess appreci sucrase activity. The fungus produced sucrase and cellobiase constitutively in different media but with different activity ratic kinetics of secretion of the two enzymes was similar under in vivo vitro conditions. HPGPLC analysis of the culture filtrates indicate presence of both sucrase and cellobiase in the same protein fractic different molar mass, even in the 30-kDa protein fraction. No free or cellobiase could be detected in the culture filtrates. It was al observed that fractionation of Cellobiase by (NH-4)-2SO-4 precipita was different with different amounts of associated sucrase activity present in the culture filtrate. The (NH-4)-2SO-4-precipitated cell fraction also contained cellobiases in proteins of widely varied mc mass ranges. However. none of the low-molar mass proteins other tha 450-kDa enzyme could be purified, as all low-molar-mass fractions spontaneously aggregated to the 450-kDa enzyme. Hydrophobic chromat of the (NH-4)-2SO-4-precipitated fractions followed by HPGPLC of th eluted active fraction yielded both cellobiase-free sucrase and a v sucrase-containing cellobiase fraction. The cellobiase fraction, homogeneous in PAGE, was also a high-molar-mass protein complex dissociating into a number of protein bands on SDS-PAGE. It was suc that the 450-kDa cellobiase was not liberated by the fungus as a pr enzyme complex but that the complex developed through interaction c cellobiase with sucrase under in vitro conditions and the possibili the involvement of other proteins in the aggregation cannot be excl

L1 ANSWER 10 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1995:391286 BIOSIS
DN PREV199598405586
TI Purification and characterization of an amyloglucosidase from **Termitomyces clypeatus** that liberates glucose from xylan.
AU Ghosh, A. K.; Naskar, A. K.; Jana, M. L.; Khowala, S.; Sengupta, S.
CS (1) Indian Inst. Chem. Biol., 4, Raja S.C. Mullick Rd., Calcutta 7C India
SO Biotechnology Progress, (1995) Vol. 11, No. 4, pp. 452-456. ISSN: 8756-7938.
DT Article
LA English
AB An amyloglucosidase was purified to homogeneity from the culture fi of **Termitomyces clypeatus**, using the following steps: ammonium sul fractionation, DEAE-Sephadex chromatography, and HP-GPLC on an Ultr TSK-G3000 SWG column. The enzyme was a glycoprotein with a minimum molecular weight of 56 000. It had appreciable activity on glycoger amylopectin, moderate activity on maltose, and little activity on p The enzyme, unlike fungal amyloglucosidase (Aspergillus niger), cou liberate glucose from xylans. The enzyme had K-m = 1.81 mg/mL and v 82.1 mu-mol/min/mg for starch hydrolysis and K-m = 4.36 mg/mL and v 57.7 mu-mol/min/mg for the hydrolysis of larch wood xylan. Among th

different inhibitors, NBS and CDTA were the most potent. Previously enzyme was shown (Ehowala, S.; et al. Appl. Microbiol. Technol. 19 287-292) to have synergistic activity on xylan hydrolysis similar t xylanolytic enzymes: (alpha-arabinofuranosidase or (alpha-glucuroni Since the amyloglucosidase was not active on cellulose, arabinogala of glucose directly from xylan by the enzyme was indicated.

L1 ANSWER 11 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1995:320760 BIOSIS
DN PREV199598335060
TI Short communication: Simultaneous production of alpha-arabinofuranc and xylanase by **Termitomyces clypeatus**.
AU Sinha, N.; Sengupta, S. (1)
CS (1) Dep. Applied Biochem., Indiana Inst. Chem. Biol., 4 Raja S.C. M Road, Calcutta 700 032 India
SO World Journal of Microbiology & Biotechnology, (1995) Vol. 11, No. 359-360.
ISSN: 0959-3993.
DT Article
LA English
AB **Termitomyces clypeatus** produced xylanase and alpha-L-arabinofuranosidase simultaneously in various media. The arabinofuranosidase had pH and temperature optima of 5.5 and 50 deg respectively, and was stable at 50 degree C for 30 min and at pH va from 2 to 5. The partially purified enzyme was distinct from xylana present in the same medium.

L1 ANSWER 12 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 1995:120194 BIOSIS
DN PREV199598134494
TI Termitomyces of southeast Asia.
AU Pegler, D. N. (1); Vanhaecke, M.
CS (1) Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE
SO Kew Bulletin, (1994) Vol. 49, No. 4, pp. 717-736.
ISSN: 0075-5974.
DT Article
LA English
AB All species of the genus Termitomyces Heim (Agaricales, Pluteaceae) occur throughout southeast Asia are collectively considered for the time. Illustrated accounts for all the accepted species are provide together with a key to species.

L1 ANSWER 13 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1993:303190 BIOSIS
DN PREV199396021415
TI A hemolytic protein from cultured mycelia of mushroom, **Termitomyces clypeatus**.
AU Khowala, Suman; Banerjee, P. C.; Ghosh, A. K.; Sengupta, S. (1)
CS (1) Dep. Applied Biochem, Indian Inst. Chemnical Biol., Calcutta 7C India
SO Indian Journal of Experimental Biology, (1993) Vol. 31, No. 1, pp.

ISSN: 0019-5189.
DT Article
LA English
AB A hemolytic protein was purified from cultured mycelia of **Termitomy clypeatus**. Some of the physico-chemical properties of the hemolysir studied. The protein was analyzed to be a lipoprotein and delipidat removed its hemolytic property. The monomeric protein subunit of th lipoprotein had a molecular weight of 64,000. Mode of action of the hemolysin were studied by observing protections of sugar and lipid components to hemolysin mediated lysis of red blood cells. It was c that the hemolysin possibly interacted with the phospholipid compor the blood cells causing lysis.

L1 ANSWER 14 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1993:124517 BIOSIS
DN PREV199395068617
TI Induced mutation of mycelial protoplast of mushroom, **Termitomyces clypeatus** for obtaining auxotrophic mutants.
AU Mukherjee, M.; Sengutpa, S. (1)
CS (1) Indian Inst. Chem. Biol., 4 Raja SC Mullick Rd., Calcutta 700 C India
SO Indian Journal of Experimental Biology, (1992) Vol. 30, No. 12, pp. 1206-1207.
ISSN: 0019-5189.
DT Article
LA English
AB **Termitomyces clypeatus**, which is aconidial as mycelial growth unde laboratory condition was grown in submerged culture in the presence N-methyl-N' nitro-N-nitrosoguanidine (NTG). Protoplasts from the my grown is presence or in absence of NTG were irradiated for 10 min u light. Mycelia unexposed to NTG did not give any auxotrophic mutant However, mutants characterized were found to be multiple auxotrophs

L1 ANSWER 15 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1992:409290 BIOSIS
DN BA94:72490
TI SACCHARIFICATION OF XYLAN BY AN AMYLOGLUCOSIDASE OF **TERMITOMYCES-CLYPEATUS** AND SYNERGISM IN THE PRESENCE OF XYLANASE.
AU KHOWALA S; GHOSH A K; SENGUPTA S
CS DEP. APPLIED BIOCHEM., INDIAN INST. CHEMICAL BIOL., 4 RAJA S. C. MI ROAD, CALCUTTA 700032, INDIA.
SO APPL MICROBIOL BIOTECHNOL, (1992) 37 (3), 287-292.
CODEN: AMBIDG. ISSN: 0175-7598.
FS BA; OLD
LA English
AB An amyloglucosidase from a mycelial culture of the mushroom **Termitc clypeatus** hydrolysed larch wood xylan independently and synergistic with an endo-$\beta(1 \rightarrow 4)$ xylanase of the same fungus. The glucoamylase saccharified xylan predigested with xylanase at a fast compared to that of xylanase acting on amylase-digested xylan. Howe overall saccharification of xylan in both cases was the same. Only was liberated from xylan by amylase digestion whereas xylose, xylob and otehr oligosaccharides were liberated during xylanase digestior

synergistic response of enzyme combinations was reflected in the liberation of glucose from xylan, rather than xylose. Glucoamylase xylanase activities on soluble and insoluble fractions of larch woc with different xylose and glucose contents suggested that synergism xylanolysis by the presence of glucoamylase was dependent on the ac of the participating xylanase on the xylan preparation. It is sugg that possibly α-glucosidic linkages are present in xylan and that amyloglucosidase might be involved in xylanolysis.

L1 ANSWER 16 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1992:123771 BIOSIS
DN BA93:69571
TI SECRETION OF BETA GLUCOSIDASE BY **TERMITOMYCES-CLYPEATUS** REGULATION CARBON CATABOLITE PRODUCTS.
AU KHOWALA S; SENGUPTA S
CS DEP. APPLIED BIOCHEM., INDIAN INST. CHEMICAL BIOL., CALCUTTA 700 03 INDIA.
SO ENZYME MICROB TECHNOL, (1992) 14 (2), 144-149.
CODEN: EMTED2. ISSN: 0141-0229.
FS BA; OLD
LA English
AB Casamino acids, irrespective of carbon source used, highly stimulat extracellular production of β-glucosidase by T. clypeatus, which produced very low amounts of enzyme in the presence of 1% (w/v) suc including xylose in minimal growth medium. Casamino acids did not e the rate of sugar uptake or improve glucose transport by mushroom, they significantly reduced the intral/ extracellular enzyme ratio b increasing the secretion of the enzyme from the cell pool into the filtrate. No phosphoenol pyruvate-mediated transport of sugars was detectable in the fungi. Few amino acids utilized as carbon source mushroom and Krebs cycle acids (poorly supporting growth) showed activities on enzyme production similar to that of casamino acids. Nonmetabolizable glucose analogue glucosamine also increased extrac enzyme production. Liberation of enzyme from washed mycelia was sti by the presence of glutamate in the incubation mixture and was alsc to be insensitive to cycloheximide (30 μg ml-1). Regulation of the excretion of β-glucosidase in T. clypeatus by glucose catabolic product(s) was indicated.

L1 ANSWER 17 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1991:305269 BIOSIS
DN BR41:13859
TI REGULATION OF **TERMITOMYCES-CLYPEATUS** PROTOPLAST REGENERATION BY KRI CYCLE ACIDS.
AU MUKHERJEE M; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA SC MULLICK ROAD, CALCUTTA 32, INDI
SO FEMS Microbiol. Lett., (1991) 80 (1), 41-44.
CODEN: FMLED7. ISSN: 0378-1097.
FS BR; OLD
LA English

L1 ANSWER 18 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1991:292295 BIOSIS
DN BA92:13310
TI CULTURAL STUDIES ON THE GENUS TERMITOMYCES IN SOUTH AFRICA I. MACRC AND MICROSCOPIC CHARACTERS OF BASIDIOME CONTEXT CULTURES.
AU BOTHA W J; EICKER A
CS DEP. BOTANY, UNIV. PRETORIA, S. AFR. 0002.
SO MYCOL RES, (1991) 95 (4), 435-443.
CODEN: MYCRER. ISSN: 0953-7562.
FS BA; OLD
LA English
AB Characteristics of basidiome context cultures of five South Africar species of Termitomyces were investigated, namely T. umkowaani, T. reticulatus, T. sagittaeformis, T. clypeatus and T. microcarpus. Microscopic characters of the cultures were very similar but macros characters differed markedly. It was possible to distinguish betwee different species by relying strictly on macroscopic character. Grc characters did not change when the nutrient medium and incubation conditions were standardised, and proved to be a reliable taxonomic criterion for the species under investigation. With the exception c microcarpus, all the species produced conidiophores and holoarthric conidia in culture with numerous aged, inflated, ungerminated conic (sphaerocysts). With the exception of T. clypeatus, conidiophores w aggregated into spherical, farinaceous sporodochia which resembled sporodochia. Conidiophores of T. clypeatus were closely compacted t synnematous structures. Cultures of T. microcarpus exhibited typica basidiomycetous growth characters. However, they differed significa from cultures of the other species which, unlike T. microcarpus, fc conidiophores and produced a raised, tough, cerebriform mycelium ma could be considered a stroma. It is suggested that T. microcarpus s be transferred to the genus Podabrella Singer.

L1 ANSWER 19 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1991:185673 BIOSIS
DN BA91:100422
TI PURIFICATION AND CHARACTERIZATION OF A BETA GLUCOSIDASE CELLOBIASE MUSHROOM **TERMITOMYCES-CLYPEATUS**.
AU SENGUPTA S; GHOSH A K; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA S C MULLICK RD., CALCUTTA 700032,
SO BIOCHIM BIOPHYS ACTA, (1991) 1076 (2), 215-220.
CODEN: BBACAQ. ISSN: 0006-3002.
FS BA; OLD
LA English
AB A β-glucosidase with cellobiase activity was purified to homogeneit from the culture filtrate of the mushroom Termtomyces clypeatus. Th enzyme had optimum activity at pH 5.0 and temperature 65°C and was stable up to 60°C and within pH 2-10. Among the substrates tested, p-nitrophenyl-β-D-glucopyranoside and cellobiose was hydrolysed bes by the enzyme. Km and Vm values for these substrates were 0.5, 1.25 95, 91 μmol/min per mg, respectively. The enzyme had low activity towards gentiobiose, salicin and β-methyl-D-glucoside. Glucose anc cellobiose inhibited the β-D-glucosidase (PNPGase) activity competitively with Ki of 1.7 and 1.9 mM, respectively. Molecular ma

the native enzyme was approximated to be 450 kDa by HPLC, whereas s dodecyl sulphate polyacrylamide gel electrophoresis indicated a mol mass of 110 kDa. The high molecular weight enzyme protein was prese intracellularly and extracellularly from the very early growth phas enzyme had a pI of 4.5 and appeared to be a glycoprotein.

L1 ANSWER 20 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1991:68789 BIOSIS
DN BA91:37449
TI ASSOCIATION OF TERMITOMYCES-SPP WITH FUNGUS GROWING TERMITES.
AU GOWDA D K S; RAJAGOPAL D
CS DEP. OF ENTOMOL., UNIV. OF AGRIC. SCI., GKVK, BANGALORE 560 065, IN
SO PROC INDIAN ACAD SCI ANIM SCI, (1990) 99 (4), 311-316.
CODEN: PIANDR. ISSN: 0253-4118.
FS BA; OLD
LA English
AB Among 5 species of Termitomyces spp. associated with Odontotermes s Termitomyces microcarpus was the most dominant on the mound surface Odontotermes redemanni during the rainy season. This species was fc grow on the fungal comb fragments brought out by termites as the su for its growth. As a result, decrease in cellulose (5.9%), lignin (nitrogen (0.54%), carbon (11.2%), C:N ratio (1.37), crude fat (0.48 moisture (17.02%) and increase in ash content (20.15%) were observe was also observed that Termitomyces microcarpus was rich in proteir (39.16-43.37%) and mineral content.

L1 ANSWER 21 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1991:45914 BIOSIS
DN BA91:24195
TI SPECIES OF TERMITOMYCES OCCURRING IN SOUTH AFRICA.
AU VAN DER WESTHUIZEN G C A; EICKER A
CS DEP. BOT., UNIVERSITY PRETORIA, 0002 PRETORIA, SOUTH AFRICA.
SO MYCOL RES, (1990) 94 (7), 923-937.
CODEN: MYCRER. ISSN: 0953-7562.
FS BA; OLD
LA English
AB Seven species of Termitomyces were identified-T. clypeatus, T. microcarpus, T. sagittiformis, T. schimperi, T. striatus, T. umkowa T. reticulatus sp. nov. The wood-destroying termite Odontotermes ba was found to be the most commonly associated termite species. Termi sagitiiformis was associated with Odontotermes latericius, a new re The morphologies of the Termitomyces spp. are described and illustr and their occurrence, distribution and termite associations are dis

L1 ANSWER 22 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1991:9222 BIOSIS
DN BA91:9222
TI REGULATION BY AMINO ACIDS OF ALPHA AMYLASE AND ENDO-BETA-1-4-GLUCAN INDUCTION IN MYCELIAL CULTURE OF THE MUSHROOM **TERMITOMYCES-CLYPEATI**
AU SENGUPTA S; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA S. C. MULLICK RD., CALCUTTA 700 03

INDIA.
SO CAN J MICROBIOL, (1990) 36 (9), 617-624.
CODEN: CJMIAZ. ISSN: 0008-4166.
FS BA; OLD
LA English
AB **Termitomyces clypeatus** constitutively liberated amyloglucosidase; liberation was not repressed by glucose. Growth of the mushroom in synthetic medium was slow with starch, and only amyloglucosidase wa liberated. Yeast extract stimulated growth and enzyme production ir medium, and α-amylase along with amyloglucosidase was detected extracellularly. The mushroom could not utilise cellulose or libera endo-β(1 → 4)-glucanase even when inducer cellobiose or glucose was added to cellulose at different concentrations. Cellobi alone also failed to induce any extracellular endo-β(1 → 4) glucanase production. Yeast extract in both cellulose and cellobios supported liberation of endo-β (1 → 4)-glucanase. Lactose was found to be a poor inducer even in yeast extract medium. However, b α-amylase and endo-β(1 → 4) glucanase were detected intracellularly at a basal level even when the enzymes were absent extracellularly under inducing and noninducing conditions. The intracellular enzymes were only freely liberated into the medium ir presence of yeast extract. It appeared that induction of α-amylase and endo-β(1 → 4)-glucanase was largely inhibited by the restricted liberation of the enzymes in absence of yeast extract. C yeast extract components, amino acids were the active ingredient mi the role of yeast extract in induction. Yeast extract was found to catabolic inhibition observed at the late phase of enzyme productic is proposed that catabolic inhibition might have a role in the enzy liberation and that amino acids supported extracellular enzyme proc by relieving this inhibition.

L1 ANSWER 23 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1990:196921 BIOSIS
DN BA89:103592
TI BETA GLUCOSIDASE PRODUCTION BY THE MYCELIAL CULTURE OF THE MUSHROOM **TERMITOMYCES-CLYPEATUS.**
AU SENGUPTA S; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA S.C. MULLICK RD., CALCUTTA-700032,
SO ENZYME MICROB TECHNOL, (1990) 12 (4), 309-314.
CODEN: EMTED2. ISSN: 0141-0229.
FS BA; OLD
LA English
AB Extracellular cellobiase activity was detected in the mycelial cult the mushroom T. clypeatus with different mono-, di-, and polysaccha as carbon source. Higher carbohdyrate (2-5%) in the medium strongly repressed enzyme production without inhibiting growth rates. On the hand, nonglucose monosaccharides also could not improve extracellul enzyme activity. Casein hydrolysate (CH) in the medium at 1% (w/v) concentration largely improved enzyme titer irrespective of carbon (glucose, xylose, cellobiose, starch) used. Extracellular activity appeared in high carbohydrate media in the presence of casein hydrc The kinetics of extra- and intracellular production of the enzyme i cellobiose (CB) medium, with or without CH, indicated extracellular growth-dependent production of the enzyme. A maximum intracellular

of 8% of the total cellobiase was measured at the late phase of grc CB medium. CH had no effect on pH, temperature optima, and thermal stability of the enzyme produced in different carbohydrate-containi media. T. clypeatus did not liberate any proteinase in the presence absence of CH. Thus CH appeared not to improve enzyme titer by repr any proteinase or stabilizing enzyme activity liberated in CH-free It was therfore suggested that the constitutive production of cellc by T. clypeatus was under catabolic repression and CH probably rele the repression to some extent. The β-glucosidase activity of the culture filtrate on p-nitrophenyl-β-D-glucose (pNPG), β-methyl-D-glucoside, and cellobiose had identical pH and temperatu optima at 5° C and 65° C, respectively. The enzyme had higher affinity for aryl-β-D-glucose, while β-CH3=D-glucoside was a very poor substrate for the enzyme. The activity of the enzym readily inhibited by glucose, whereas glucose analogues or any othe related sugars did not have any appreciable inhibitory activity.

L1 ANSWER 24 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1989:181656 BIOSIS
DN BA87:92922
TI ISOLATION AND REGENERATION OF PROTOPLASTS FROM **TERMITOMYCES-CLYPEA**
AU MUKHERJEE M; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA S. C. MULLICK ROAD, CALCUTTA 700 C INDIA.
SO CAN J MICROBIOL, (1988) 34 (12), 1330-1332.
CODEN: CJMIAZ. ISSN: 0008-4166.
FS BA; OLD
LA English
AB A method for the efficient release of protoplasts from the mycelia **Termitomyces clypeatus** and the conditions necessary for the regeneration of the protoplasts are described. It was possible to c T. clypeatus protoplasts, to a concentration of 2 × 108/mL of incubation mixture, by digesting the mycelia with a mixture of cell chitinase, and Novozym 234 for 3 h. Mycelial regeneration of the protoplasts was not detected in liquid regenerating medium, whereas than 50% of the protoplasts developed into colonies on the same sol medium. Both direct hyphal growth and budding of the protoplasts wi any hyphal development were observed on solid medium. However, budc the protoplasts was only observed in the liquid regenerating medium

L1 ANSWER 25 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1988:460063 BIOSIS
DN BA86:101782
TI CARBOXYMETHYLXYLAN A SPECIFIC SUBSTRATE DIRECTLY DIFFERENTIATING BACKBONE-HYDROLYZING AND SIDE CHAIN-REACTING BETA-D-1-4 XYLANASES C MUSHROOM **TERMITOMYCES-CLYPEATUS.**
AU KHOWALA S; MUKHERJEE M; SENGUPTA S
CS DEP. APPLIED BIOCHEM., INDIAN INST. CHEM. BIOL., 4 RAJA S C MULLICK CALCUTTA 700032, INDIA.
SO ENZYME MICROB TECHNOL, (1988) 10 (9), 563-567.
CODEN: EMTED2. ISSN: 0141-0229.
FS BA; OLD
LA English

AB The mushroom **Termitomyces clypeatus** produces two endoxylanases (D) (X) when grown in media containing dextrin and xylan as carbon sour respectively. Endoxylanase (D) showed wide variation in its activit different lots of xylan preparations, and its activity was found tc dependent upon the composition of xylans. The xylose-liberating endoxylanase (X) did not discriminate between diffent xylans. The a of xylanase (D) was found to decrease as the proportion of xylose i different xylan preparations increased. The dialyzable oligosacchar from the digestion of xylan by enzyme (D) contained constituent suc xylan, whereas xylose was the main constituent sugar of the undialy fraction. Enzyme (D) also could not liberate any reducing group frc carboxymethyl xyland (CMX), a suitable substrate for viscometric ar colorimetric assays of endolytic activity of xylanases. CMX was fou be modified preferentially at the substituent sugars of xylan rathe at backbone residues. Thus CMX proved to be a specific substrate fc colorimetric assay of true endoxylanase activity.

L1 ANSWER 26 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 1987:384172 BIOSIS
DN BA84:70669
TI MULTISUBSTRATE SPECIFIC AMYLASE FROM MUSHROOM **TERMITOMYCES-CLYPEATI**
AU GHOSH A K; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA S. C. MULLICK ROAD, JADAVPUR, CALC 700 032, INDIA.
SO J BIOSCI (BANGALORE), (1987) 11 (1-4), 275-286.
CODEN: JOBSDN. ISSN: 0250-4774.
FS BA; OLD
LA English
AB An amylase was purified from the culture filtrate of **Termitomyces clypeatus** by ammonium sulphate precipitation, DEAE-Sephadex chromatography and gel filtration on Bio-Gel P-200 column. The electrophoretically homogeneous preparation also exhibited hydrolyt activity (in a decreasing order) on amylose, xylan, amylopectin, gl arabinogalactan and arabinoxylan. The enzyme had characteristically endo-hydrolytic activity on all the substrates tested and no xylose glucose, arabinose or glucuronic acid could be detected even after prolonged enzymatic digestion of the polysaccharides. Interestingly enzyme had similar pH optima (5.5), temperature optima (55° C), pH stability (pH 3-10) and thermal denaturation kinetics when acted or starch and xylan (larch wood). Km values were found to be 2.63 mg/m amylase and 6.25 mg/ml for xylanase activity. Hill's plot also indi that the enzyme contained a single active site for both activities. was found to be most potent inhibitor. Ca2+, a common activator for amylase activity, appeared to be an inhibitor for this enzyme. Thus appeared that the enzyme had multisubstrate specificity acting as α-amylase on starch and also acting as xylanase on side chain oligosaccharides of xylan containing α-linked sugars.

L1 ANSWER 27 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 1987:91994 BIOSIS
DN BR32:41795
TI NOTES ON THE GENUS TERMITOMYCES HEIM IN MALAWI.
AU MORRIS B

CS GOLDSMITHS COLL., UNIV. LONDON.
SO SOC MALAWI J, (1986) 39 (1), 40-49.
CODEN: SMJODY.
FS BR; OLD
LA English

L1 ANSWER 28 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1985:438076 BIOSIS
DN BA80:108068
TI AN INDUCIBLE XYLANASE OF THE MUSHROOM **TERMITOMYCES-CLYPEATUS** DIFFEI FROM THE XYLANASE-AMYLASE PRODUCED IN DEXTRIN MEDIUM.
AU MUKHERJEE M; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA S.C. MULLICK ROAD, JADAVPUR, CALCU 032, INDIA.
SO J GEN MICROBIOL, (1985) 131 (8), 1881-1886.
CODEN: JGMIAN. ISSN: 0022-1287.
FS BA; OLD
LA English
AB The mushroom T. clypeatus produces a single endoxylanase (1,4-β-D-xylan xylanohydrolase, EC 3.2.1.8) in the presence of eith dextrin or xylan as sole source of C. The enzymes produced in the 2 conditions are different. The enzyme induced by xylan was purified from the culture filtrate of T. clypeatus. The enzyme preparation g single protein band on sodium dodecyl sulfate-polyacrylamide gel electrophoresis, corresponding to a MW of ~ 24,000. The enzyme has an isoelectric point at pH 4.0 and acts on arabinoxylan and arabinogalactan, but not amylopectin or galactomannan. It shows max activity on xylan (1,4-β-linked-D-xylopyranose units) at pH 3.5 anc 55° C and is fairly stable up to 60° C. The Km for xylan is 4 mg ml-1. Hg2+, Fe2+ and Ag+ are the most potent inhibitors of the enzyme. The pH optimum and MW of this inducible xylanase differ frc of the enzyme produced by the same organism grown in dextrin medium

L1 ANSWER 29 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 1984:78567 BIOSIS
DN BR26:78567
TI SACCHARIFICATION OF UNTREATED AGRO WASTES DURING MYCELIAL GROWTH OF MUSHROOM **TERMITOMYCES-CLYPEATUS** ON SOLID BEDS.
AU SENGUPTA S; NASKAR A K; JANA M L
CS DEP. APPLIED BIOCHEM., INDIAN INST. CHEM. BIOL., 4 RAJA S. C. MULLI ROAD, CALCUTTA 700 032, INDIA.
SO Biotechnol. Bioeng., (1984) 26 (2), 188-190.
CODEN: BIBIAU. ISSN: 0006-3592.
FS BR; OLD
LA English

L1 ANSWER 30 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1983:214137 BIOSIS
DN BA75:64137
TI HEM AGGLUTINATING ACTIVITY IN EXTRACTS OF MYCELIA FROM SUBMERGED MU CULTURES.

AU BANERJEE P C; GHOSH A K; SENGUPTA S
CS INDIAN INSTITUT CHEMICAL BIOL., CALCUTTA 700 032, INDIA.
SO APPL ENVIRON MICROBIOL, (1982) 44 (4), 1009-1011.
CODEN: AEMIDF. ISSN: 0099-2240.
FS BA; OLD
LA English
AB Extracts from mycelia of 7 different mushrooms [Volvariella volvace **Termitomyces clypeatus**, Panafolus papillionaceus, Gymnopilus chrysimyces, Lentinus squarrosulus, Coprinus lagopus, C. altramenta agglutinated erythrocytes of several species [sheep, guinea pig, ra mouse, goat, human]. More than 1 agglutinating factor was identifie the extracts of 3 different mycelia. Agglutination was partially ir nonspecifically by high concentrations of glucose, galactose, manno fucose and rhamnose.

L1 ANSWER 31 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS
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AN 1983:175698 BIOSIS
DN BA75:25698
TI NUTRITIVE VALUE OF SOME NIGERIAN EDIBLE MUSHROOMS.
AU OGUNDANA S K; FAGADE O E
CS DEP. MICROBIOL., UNIV. IFE, ILE-IFE, NIGERIA.
SO FOOD CHEM, (1982) 8 (4), 263-268.
CODEN: FOCHDJ. ISSN: 0308-8146.
FS BA; OLD
LA English
AB Samples of Termitomyces robustus, T. clypeatus and Pleurotus tuber- were analyzed for their nutrient and toxic substances. The Termitom spp. contained as much as 31% proteins and ~ 32% carbohydrates, of which at least 26% were reducing sugars. P. tuber-regium contained protein and 18.6% carbohydrates; of which only ~ 2.9% were reducing sugars. There was little difference in their crude fiber and ash co while the fat content of T. robustus was a little higher than those other samples. The ascorbic acid content of each of the Termitomyce (10 and 14.3 mg%) was much higher than that of Pleurotus sp. (3.3 m All mushroom samples were low in HCN and oxalate contents.

L1 ANSWER 32 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS
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AN 1983:63068 BIOSIS
DN BR24:63068
TI **TERMITOMYCES-CLYPEATUS** COLLECTED FROM IRIOMOTE ISLAND OKINAWA JAPAI
AU OTANI Y; SHIMIZU D
CS DEPARTMENT OF BOTANY, TSUKUBA BOTANICAL GARDEN NATIONAL SCIENCE MUS IBARAKI PREFECTURE.
SO Bull. Natl. Sci. Mus., Ser. B (Tokyo), (1981 (RECD 1982)) 7 (4), 13
CODEN: BMBBD6. ISSN: 0385-2431.
FS BR; OLD
LA English

L1 ANSWER 33 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS
Full Text | Citing References

AN 1982:51289 BIOSIS
DN BR22:51289

TI MODE OF ACTION OF AN ENDO XYLANASE ISOLATED FROM THE MUSHROOM **TERMITOMYCES-CLYPEATUS.**
AU GHOSH A K
CS INDIAN INST. EXP. MED., CALCUTTA 700 032.
SO ANNUAL MEETING AND 2ND CONGRESS OF THE FEDERATION OF ASIAN AND OCEA BIOCHEMISTS, BANGALORE, INDIA, DEC. 14-18, 1980. INDIAN J BIOCHEM E (1981) 18 (4), 110.
CODEN: IJBBBQ. ISSN: 0301-1208.
DT Conference
FS BR; OLD
LA English

L1 ANSWER 34 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 1980:233622 BIOSIS
DN BA70:26118
TI PURIFICATION AND PROPERTIES OF XYLAN HYDROLASE EC-3.2.1.8 FROM MUSH **TERMITOMYCES-CLYPEATUS.**
AU GHOSH A K; BANERJEE P C; SENGUPTA S
CS INDIAN INST. EXP. MED., 4 RAJA S.C. MULLICK RD., CALCUTTA 700 032, BENGAL, INDIA.
SO BIOCHIM BIOPHYS ACTA, (1980) 612 (1), 143-152.
CODEN: BBACAQ. ISSN: 0006-3002.
FS BA; OLD
LA English
AB The endoxylanase (1,4-β-D-xylan xylanohydrolase, EC 3.2.1.8) from t culture filtrate of a mushroom, T. clypeatus, was purified 93-fold ammonium sulfate precipitation, ion-exchange chromatography (DEAE-Sephadex) and gel permeation chromatography (Bio-Gel P-200). enzyme preparation gave a single protein band on disc gel electroph at pH 9.5, and has a MW of about 90,000. It acts on amylopectin, arabinoxylan and arabinogalactan. The enzyme shows maximum activity xylan (1,4-β-linked D-xylopyranose units) at pH 5.5 and at 55° C and is fairly stable between pH 3 and 10 and temperatures up to 60° C. The Km is 4 mg of xylan/ml. Hg2+ is the most potent inhibitor, whereas Fe2+, Ag+, iodoacetate and phosphate moderately the enzyme activity.

L1 ANSWER 35 OF 35 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 1976:217306 BIOSIS
DN BA62:47306
TI SOUTH INDIAN AGARICALES PART 1 TERMITOMYCES.
AU NATARAJAN K
SO KAVAKA, 3 1975 (RECD 1976), 63-66.
CODEN: KVAKAH.
FS BA; OLD
LA Unavailable
AB Four species of Termitomyces, i.e., T. badius Otieno, T. clypeatus T. microcarpus (Berk. et Br.) Heim and a new species, T. indicus, a described.

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FILE 'BIOSIS' ENTERED AT 12:46:42 ON 12 DEC 2001
L1 35 TERMITOMYCES CLYPEATUS

=> cellobiase
447 CELLOBIASE
26 CELLOBIASES
L2 454 CELLOBIASE

(CELLOBIASE OR CELLOBIASES)

=> l1 and l2
L3 5 L1 AND L2

=> d bib ab 1-5

L3 ANSWER 1 OF 5 BIOSIS COPYRIGHT 2001 BIOSIS

Full Text | Citing References

AN 2001:473019 BIOSIS
DN PREV200100473019
TI Hetero-aggregation with sucrase affects the activity, stability anc conformation of extra- and intra-cellular **cellobiase** in the filamer fungus T. clypeatus.
AU Mukherjee, Sumana; Basak, Soumen; Khowala, Suman (1)
CS (1) Department of Applied Biochemistry, Indian Institute of Chemica Biology, 4 Raja S C Mullick Road, Calcutta, 700032: sumankhowala@iicb.res.in India
SO Enzyme and Microbial Technology, (September 5, 2001) Vol. 29, No. 4 213-224. print.
ISSN: 0141-0229.
DT Article
LA English
SL English
AB **Cellobiase** (C) from T. clypeatus was found to be aggregated with su (S) in extra- and intra-cellular fractions, when co-aggregates of t enzyme with sucrase with different activity ratios (C/S) were obtai during purification. The co-aggregates were compared for their acti stability, and kinetic parameters with a purified sucrase-free **cellobiase** preparation. The specific activity and stability of both extra- and intra-cellular enzyme decreased significantly in the abs sucrase. The catalytic activity (Vmax/Km) of sucrase-free **cellobias** were decreased by 4236 and 652 fold compared to the crude enzyme ir culture filtrate and mycelial extracts respectively. The stability enzyme also decreased versus pH, temperature and in the presence of chaotropic agents such as SDS, Gdn.HCl and urea after disaggregatic sucrase. Optimum temperatures of the free intra- and extra-cellular **cellobiase** were shifted to 47degreeC from 45degreeC after the remov sucrase from the co-aggregates, whereas optimum pH of the free enzy co-aggregates remained the same. Intra-cellular **cellobiase** had very affinity for sucrase and it was difficult to separate them. **Cellobi** preparations from extra- and intra-cellular fractions were analysec circular dichroism and light scattering spectroscopy and it was cor that co-aggregation with sucrase was responsible for a change in conformation of **cellobiase** in the aggregates. The conformation of intra-cellular enzyme preparations were also different from those i extra-cellular fractions. Instant regain of **cellobiase** activity in intra- and extra-cellular preparations were obtained on the additic vitro of free sucrase from the respective fractions to the incubati mixture. The experiments suggested that hetero-aggregation with suc regulates the activity and stability of **cellobiase** in the fungus.

L3 ANSWER 2 OF 5 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 1998:53127 BIOSIS

DN PREV199800053127
TI Purification and characterization of an extracellular beta-xylosida **Termitomyces clypeatus**.
AU Bhattacharyya, Saswati; Khowala, Suman; Kumar, A.; Sengupta, S. (1)
CS (1) Dep. Applied Biochem., Indian Inst. Chem. Biol., 4 Raja S. C. M Road, Calcutta 700 032 India
SO Biotechnology Progress, (Nov.-Dec., 1997) Vol. 13, No. 6, pp. 822-8 ISSN: 8756-7938.
DT Article
LA English
AB **Termitomyces clypeatus** liberated beta-xylosidase (EC 3.2.1.37) optimally in xylan medium but poorly in cellulose medium. The enzym activity reached 5-6% of that of xylanase liberated in xylan medium culture filtrate enzyme, purified 5-fold by ammonium sulfate precipitation, BioGel P-200, and DEAE-Sephadex anion exchange chromatographies at pH 5.0, was homogeneous (190 kDa) in polyacryla gel electrophoresis (PAGE) and in high-performance gel permeation l chromatography (HPGPLC) but contained high amounts of **cellobiase** ar sucrase and gave multiple protein bands in SDS-PAGE (SDS = sodium d sulfate). The aggregate was subsequently beta-xylosidase fractions decreasing sucrase contents. The sucrase free beta-xylosidase resol DEAE-anion exchange chromatography at pH 6.0 into a number of fract subsequently purified to 55.6-fold by hydrophobic interaction chromatography on a phenyl-sepharose column. The enzyme was a homoc 94 kDa protein, both in SDS-PAGE and HPGPLC. The physicochemical properties of the enzyme were similar to those of other fungal beta-xylosidases, and the enzyme had no unrelated glycosidase activ The purified (94 kDa) and aggregated forms (190 kDa) of beta-xylosi had the same pH optima (5.0), temperature optima (60degreeC), subst specificities, and sensitivities toward end product inhibition by x or to the actions of SDS, urea, and guanidine hydrochloride. But aggregated enzyme was reasonably stable in the pH and temperature r where purified enzyme was completely inactive. The protein-protein aggregation appeared to confer additional stability to the beta-xyl toward extracellular denaturing conditions.

L3 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 1995:539832 BIOSIS
DN PREV199598554132
TI Development of high-molar-mass **cellobiase** complex by spontaneous protein-protein interaction in the culture filtrate of **Termitomyces clypeatus**.
AU Roy, S. B.; Ghosh, A. K.; Sengupta, S.; Sengupta, S. (1)
CS (1) Dep. Applied Biochem., Indian Inst. Chemical Biol., Calcutta-7C India
SO Folia Microbiologica, (1994) Vol. 39, No. 6, pp. 463-470. ISSN: 0015-5632.
DT Article
LA English
AB The 450 kDa **cellobiase** from **Termitomyces clypeatus** which migrates a single band on IEF, PAGE and SDS-PAGE, was found to possess appre sucrase activity. The fungus produced sucrase and **cellobiase** constitutively in different media but with different activity ratic kinetics of secretion of the two enzymes was similar under in vivo vitro conditions. HPGPLC analysis of the culture filtrates indicate

presence of both sucrase and **cellobiase** in the same protein fractic different molar mass, even in the 30-kDa protein fraction. No free or **cellobiase** could be detected in the culture filtrates. It was a observed that fractionation of **Cellobiase** by (NH-4)-2SO-4 precipita was different with different amounts of associated sucrase activity present in the culture filtrate. The (NH-4)-2SO-4-precipitated **cellobiase** fraction also contained **cellobiases** in proteins of wide varied molar mass ranges. However. none of the low-molar mass prote other than the 450-kDa enzyme could be purified, as all low-molar-m fractions spontaneously aggregated to the 450-kDa enzyme. Hydrophob chromatography of the (NH-4)-2SO-4-precipitated fractions followed HPGPLC of the eluted active fraction yielded both **cellobiase**-free sucrase and a very low sucrase-containing **cellobiase** fraction. The **cellobiase** fraction, homogeneous in PAGE, was also a high-molar-mas protein complex dissociating into a number of protein bands on SDS- It was suggested that the 450-kDa **cellobiase** was not liberated by t fungus as a preformed enzyme complex but that the complex developec through interaction of **cellobiase** with sucrase under in vitro condi and the possibility of the involvement of other proteins in the aggregation cannot be excluded.

L3 ANSWER 4 OF 5 BIOSIS COPYRIGHT 2001 BIOSIS

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AN 1991:185673 BIOSIS
DN BA91:100422
TI PURIFICATION AND CHARACTERIZATION OF A BETA GLUCOSIDASE **CELLOBIASE** A MUSHROOM **TERMITOMYCES-CLYPEATUS.**
AU SENGUPTA S; GHOSH A K; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA S C MULLICK RD., CALCUTTA 700032,
SO BIOCHIM BIOPHYS ACTA, (1991) 1076 (2), 215-220.
CODEN: BBACAQ. ISSN: 0006-3002.
FS BA; OLD
LA English
AB A β-glucosidase with **cellobiase** activity was purified to homogeneity from the culture filtrate of the mushroom Termtomyces clypeatus. The enzyme had optimum activity at pH 5.0 and temperatur 65°C and was stable up to 60°C and within pH 2-10. Among the substrates tested, p-nitrophenyl-β-D-glucopyranoside and cellobiose was hydrolysed best by the enzyme. Km and Vm values for these subst were 0.5, 1.25 mM and 95, 91 μmol/min per mg, respectively. The enz had low activity towards gentiobiose, salicin and β-methyl-D-glucoside. Glucose and cellobiose inhibited the β-D-glucosidase (PNPGase) activity competitively with Ki of 1.7 and 1.9 mM, respect Molecular mass of the native enzyme was approximated to be 450 kDa HPLC, whereas sodium dodecyl sulphate polyacrylamide gel electrophc indicated a molecular mass of 110 kDa. The high molecular weight er protein was present both intracellularly and extracellularly from t early growth phase. The enzyme had a pI of 4.5 and appeared to be glycoprotein.

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TI BETA GLUCOSIDASE PRODUCTION BY THE MYCELIAL CULTURE OF THE MUSHROOM TERMITOMYCES-CLYPEATUS.

AU SENGUPTA S; SENGUPTA S
CS INDIAN INST. CHEM. BIOL., 4 RAJA S.C. MULLICK RD., CALCUTTA-700032,

SO ENZYME MICROB TECHNOL, (1990) 12 (4), 309-314.
CODEN: EMTED2. ISSN: 0141-0229.
FS BA; OLD
LA English

AB Extracellular **cellobiase** activity was detected in the mycelial culture of the mushroom T. clypeatus with different mono-, di-, and polysaccharides as carbon source. Higher carbohdyrate (2-5%) in the strongly repressed enzyme production without inhibiting growth rate the other hand, nonglucose monosaccharides also could not improve extracellular enzyme activity. Casein hydrolysate (CH) in the medium (w/v) concentration largely improved enzyme titer irrespective of c source (glucose, xylose, cellobiose, starch) used. Extracellular ac also appeared in high carbohydrate media in the presence of casein hydrolysate. The kinetics of extra- and intracellular production of enzyme in cellobiose (CB) medium, with or without CH, indicated extracellular and growth-dependent production of the enzyme. A maxi intracellular level of 8% of the total **cellobiase** was measured at t late phase of growth in CB medium. CH had no effect on pH, temperat optima, and thermal stability of the enzyme produced in different carbohydrate-containing media. T. clypeatus did not liberate any proteinase in the presence or the absence of CH. Thus CH appeared r improve enzyme titer by repressing any proteinase or stabilizing er activity liberated in CH-free medium. It was therfore suggested tha constitutive production of **cellobiase** by T. clypeatus was under catabolic repression and CH probably released the repression to som extent. The β-glucosidase activity of the culture filtrate on p-nitrophenyl-β-D-glucose (pNPG), β-methyl-D-glucoside, and cellobiose had identical pH and temperature optima at 5° C and 65° C, respectively. The enzyme had higher affinity for aryl-β-D-glucose, while β-CH3=D-glucoside was a very poor substrate for the enzyme. The activity of the enzyme was readily ir by glucose, whereas glucose analogues or any other related sugars c have any appreciable inhibitory activity.

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